UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,384	07/14/2003	M. Scott Corson	060556	5434

23696 7590 03/02/2011
QUALCOMM INCORPORATED
5775 MOREHOUSE DR.
SAN DIEGO, CA 92121

EXAMINER	
RUTKOWSKI, JEFFREY M	
ART UNIT	PAPER NUMBER
2473	

NOTIFICATION DATE	DELIVERY MODE
03/02/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com

Office Action Summary	Application No.	Applicant(s)	
	10/619,384	CORSON ET AL.	
	Examiner	Art Unit	
	JEFFREY M. RUTKOWSKI	2473	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 December 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-14,25,30,33,39-42 and 44-57* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-14,25,30,33,39-42 and 44-57* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 6, 15-24, 26-29, 31-32, 34, 36-38 and 43 have been cancelled.
Claims 1-5, 7-14, 25, 30, 33, 39-42 and 44-57 are pending.

Claim Objections

1. **Claim 1** is objected to because of the following informalities: there is a double comma (,,) on line 5 of **claim 1**. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. **Claims 1-5, 7-12, 14, 25, 30, 33, 39, 40, 42, 44, 46-49, 52, and 53-57** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta et al. (US 2001/0034228) in view of Alriksson et al. (US Pg Pub 2001/0024443), hereinafter referred to as Alriksson, and Medard et al. (US Pat 6,047,331), hereinafter referred to as Medard.

5. For **claim 1, 39, 42, 46, 48, 52, 54**, Lehtovirta discloses receiving, at the end node (UE **30**; see figure 12), via a first network node (RNC **26**; see figure 12), a fault signal (N_RESET; the N_RESET message is sent to the UE **30** via RNC **26**; see paragraph 0046 and figure 12) indicating a network node fault (the N_RESET message is used to indicate a partial fault in PS CN **20**; see paragraph 0048 and figure 12) of a second network node (PS CN **20**; the N_RESET message indicates a failure in the PS CN **20**; see figure 12) that is different than the first network node (the RNC **26** and the PS CN **20** are different nodes; see figure 12); determining if the network node fault (partial fault) corresponds to a network node (a PS CN **20** node; see paragraph 0020 and figure 12) that is used in routing signals (RAB signals; see figure 12) to or from the end node (UE **30**; see figure 12. The N_RESET message contains a list of IP addresses in the PS CN **20** that have failed; see paragraph 0048 and figure 12) and initiating a fault response operation (release RABs) if it is determined that the network node fault corresponds to a network node (a PS CN **20** node; see paragraph 0020) that is used in routing of signals to or from the end node (UE **30**; a node that receives the N_RESET message, such as a UE or other core network nodes, releases all RABs associated with the IP address of the failed device; see paragraphs 0046-0048 and figure 12).

6. Lehtovirta discloses determining if the network node fault (partial fault) corresponds to a network node (a PS CN **20** node; see paragraph 0020 and figure 12) that is used in routing signals (RAB signals; see figure 12) to or from the end node (UE **30**; see figure 12. the N_RESET message contains a list of IP addresses in the PS CN **20** that have failed; see paragraph 0048 and figure 12). The nodes that receive the partial fault message include UE (see paragraph 0046). Lehtovirta also discloses each peer node in the network is aware allocated IP

addresses for routing purposes (see paragraph 0047). Lehtovirta does not disclose the use of a list. Medard discloses determining, at the end node (source node **12a**; see figure 1) using said generated list (routing table **16**), if the second network node (network node that failed; see col. 10 lines 19-25) is a network node that is used in routing signals to or from said end node (Medard suggests this feature because the network nodes **12a** performs a routing table **16** look-up when a fault message is received to obtain information concerning the nodes, links and preferred paths; see col. 10 lines 6-40); and initiating a fault response operation (the network node **12a** uses a secondary path to send information; see col. 10 lines 19-41) if it is determined that the second network node (node that failed) is a network node that is used in routing of signals to or from said end node (if there is a match in the routing table **16**; see col. 10 lines 6-40). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Medard's architecture in Lehtovirta's invention to provide a recovery mechanism at the source node (Medard, abstract).

7. Lehtovirta does not disclose the generation of Mobile Internet Protocol (IP) signals. Alriksson suggests generating at the end node (a node that is performing source routing, see paragraph 0109), from Mobile IP signals directed to said end node or transmitted by said end node (gateway capability messages are sent in Mobile IP signals are sent to the end node), a list of network nodes identifying network nodes used in routing signals to or from said end node (the information is used to populate a routing table on the source node, see paragraph 0105. Also, figure 3 shows there are two gateways that transmit the messages), said Mobile IP signals including at least one of a Mobile IP agent solicitation message, a Mobile IP agent advertisement message (Mobile IP agent advertisements are used to notify the source nodes of an

Internet gateway(s) availability, see paragraph 0109), a Mobile IP registration message and a Mobile IP registration reply message. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Alriksson's architecture in Lehtovirta's invention to allow an end node to determine the capabilities of certain nodes on the network (Alriksson, paragraph 0109).

8. Specifically for **claim 39**, Lehtovirta discloses a means for receiving (each UE **30** has antenna that receives information from the network), and a means for initiating (Lehtovirta suggests the means for initiating is a processor executing code because figure 13 shows the steps that are performed by nodes that receive the N_RESET message. The nodes that receive the N_RESET message include the UE; see paragraph 0046).

9. Lehtovirta does not disclose the use of a means for storing or a means for processing. Medard discloses means for storing (route table **16**; see figure 1) and a means for processing (APS processor **14**; see figure 1). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Medard's architecture in Lehtovirta's invention to provide a recovery mechanism at the source node (Medard, abstract).

10. Lehtovirta does not disclose the use of a means for generating. Alriksson discloses means for generating (Alriksson suggests the means for generating is a processor executing code because protocol stack information is used to populate a routing table; see paragraphs 0105 and 0109). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Alriksson's architecture in Lehtovirta's invention to allow an end node to determine the capabilities of certain nodes on the network (Alriksson, paragraph 0109).

11. Specifically for **claims 46 and 54**, Lehtovirta discloses a means for receiving (each UE **30** has antenna that receives information from the network), and a means for initiating (Lehtovirta suggests the means for initiating is a processor executing code because figure 13 shows the steps that are performed by nodes that receive the N_RESET message. The nodes that receive the N_RESET message include the UE; see paragraph 0046).

12. Lehtovirta does not disclose the use of a means for determining. Medard discloses a means for determining (APS processor **14**; see figure 1). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Medard's architecture in Lehtovirta's invention to provide a recovery mechanism at the source node (Medard, abstract).

13. Lehtovirta does not disclose the use of a means for generating. Alriksson discloses means for generating (Alriksson suggests the means for generating is a processor executing code because protocol stack information is used to populate a routing table; see paragraphs 0105 and 0109). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Alriksson's architecture in Lehtovirta's invention to allow an end node to determine the capabilities of certain nodes on the network (Alriksson, paragraph 0109).

14. Specifically for **claims 42 and 52**, Lehtovirta discloses the use of a receiver (each UE **30** has antenna that receives information from the network) and a processor to receive service interference notifications (Lehtovirta suggests the use of a processor because figure 13 shows the steps that are performed by nodes that receive the N_RESET message. The nodes that receive the N_RESET message include the UE; see paragraph 0046).

15. Lehtovirta does not disclose the use of a memory for storing lists of nodes. Medard discloses the use of a memory for storing lists of nodes (route table **16**; see figure 1). It would

have been obvious to a person of ordinary skill in the art at the time of the invention to use Medard's architecture in Lehtovirta's invention to provide a recovery mechanism at the source node (Medard, abstract).

16. Lehtovirta does not disclose the use of a processor module configured to generate. Alriksson discloses the use of a processor module configured to generate (Alriksson suggests the use of a processor module because protocol stack information is used to populate a routing table; see paragraphs 0105 and 0109). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Alriksson's architecture in Lehtovirta's invention to allow an end node to determine the capabilities of certain nodes on the network (Alriksson, paragraph 0109).

17. For **claims 2, 47, 49 and 55,** Lehtovirta suggests comparing network node information (IP address of the failed device; see figure 12) included in the received fault signal (N_RESET message; see figure 12) to information stored in memory identifying at least one network node used in routing signals to or from the end node (the nodes that receive the N_RESET message use the IP address information to shut down only those RABs that are associated with the IP address; see paragraphs 0046, 0048 and figure 12). Lehtovirta does not disclose the use of a generated list. Medard discloses the use of a generated list (routing table **16**; see figure 1). It would have been obvious to a person of ordinary skill in the art at the time of the invention to store a routing table in memory in Lehtovirta's invention to provide a recovery mechanism at the source node (Medard, abstract).

18. Specifically for **claims 47 and 55**, Lehtovirta suggests the means for comparing is a processor executing code because figure 13 shows the steps that are performed by nodes that receive the N_RESET message.

19. For **claims 3 and 56,** Lehtovirta suggests determining the fault response operation as a function of information stored in the end node (the steps **138 and 140** are performed by nodes that receive the N_RESET message; see figure 13. The nodes that receive the N_RESET message include UE; see paragraph 0046), the stored information relating to a plurality of possible operations (all RABs are released and signaling connections can be maintained, if desired; see paragraph 0050 and figure 13 step **140**).

20. Specifically for **claim 56**, Lehtovirta suggests the means for determining is a processor executing code because figure 13 shows the steps that are performed by nodes that receive the N_RESET message.

21. For **claims 4, 25 and 57**, Lehtovirta discloses initiating said fault response operation as a function of fault response information stored in said end node (the steps **138 and 140** are performed by nodes that receive the N_RESET message; see figure 13. The nodes that receive the N_RESET message include UE; see paragraph 0046), said stored fault response information relating to a plurality of possible operations (all RABs are released and signaling connections can be maintained, if desired; see paragraph 0050 and figure 13 step **140**).

22. Lehtovirta does not disclose selecting operations based on the type of fault and the node where the fault occurred. Medard discloses wherein said initiating said fault response operation is also performed as a function of the second network node at which the fault occurred with said operation being elected from a plurality of possible operations based on both the type of fault

(link or node failure; see col. 10 lines 19-21) and which one of a plurality of network nodes was the node at which the fault occurred (the secondary path is selected based on the link and the node that failed; see col. 10 lines 19-41 and figure 1). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Medard's architecture in Lehtovirta's invention to provide a recovery mechanism at the source node (Medard, abstract).

23. Specifically for **claim 57**, Lehtovirta suggests the means for initiating is a processor executing code because figure 13 shows the steps that are performed by nodes that receive the N_RESET message.

24. For **claim 5,** Lehtovirta further teaches using a list of network nodes to determine if the node is used in the routing of signals to the end node (see paragraph 44).

25. For **claim 7,** Lehtovirta further teaches the stored information includes information identifying a network node which is used by the end node as an access node through the end node is coupled to other nodes in the communications network (see paragraph 46; The RNC coupled to the base station is used by the end node as an access node.).

26. For **claim 8,** Lehtovirta further teaches the access node is a base station and the end node is a mobile device that is coupled to the base station by a wireless communications link (see Fig. 1 Boxes 28 and 30).

27. For **claims 9 and 33,** Lehtovirta further teaches generating at least a portion of the stored information identifying the network nodes used in routing signals to or from the end node from information included in signals sent to or from the end node (see paragraph 44).

28. Lehtovirta does not disclose generating at least a portion of the stored information identifying the network nodes used in routing signals to or from the end node from information

included in signals sent to or from the end node. Alriksson discloses dynamically generating at least a portion of the stored information identifying the network nodes used in routing signals to or from the end node from information included in signals sent to or from the end node (the routing table entries are dynamically generated using Mobile IP agent advertisements, see paragraph 0109). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Alriksson's architecture in Lehtovirta's invention to allow an end node to determine the capabilities of certain nodes on the network (Alriksson, paragraph 0109).

29. For **claim 10,** Lehtovirta teaches all the subject matter of the claimed invention with the exception of dynamically generating at least a portion of the stored information identifying network nodes includes: operating the end node to monitor for non-fault related signals and to generate at least some of the stored information from the monitored non-fault related signals.

30. However, Alriksson teaches dynamically generating at least a portion of the stored information identifying network nodes includes: operating the end node to monitor for non-fault related signals and to generate at least some of the stored information from the monitored non-fault related signals (the source node monitors the network for Mobile IP agent advertisements. The information from the agent advertisements is used to populate a route table, see paragraphs 0105 and 0109). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Alriksson's architecture in Lehtovirta's invention to allow an end node to determine the capabilities of certain nodes on the network (Alriksson, paragraph 0109).

31. For **claim 11,** Lehtovirta further teaches session signaling messages communicated to or from the end node (see paragraph 49).

32. For **claim 12,** Lehtovirta further teaches the non-fault related signals are routing messages (see paragraph 10).

33. For **claim 14**, Lehtovirta discloses a fault response where a RAB and/or signaling connection should be released (end node state update operation) **[0045]**.

34. For **claim 40**, Lehtovirta suggests said device includes a wireless transmitter; and wherein means for receiving includes a radio receiver circuit (figure 1 shows an end node uses an antenna as a transceiver, which is an integrated transmitter and receiver).

35. For **claim 44**, Lehtovirta discloses fault response actions to be taken to respond to faults at network nodes (different actions are taken for partial and complete network failures, see paragraphs 0044-0045).

36. Lehtovirta does not disclose the generation of a list for routing IP packets. Alriksson discloses generating the list used in routing of IP packets to said mobile node (routing table entries are generated to route Mobile IP packets, see paragraphs 0105 and 0109). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Alriksson's architecture in Lehtovirta's invention to allow an end node to determine the capabilities of certain nodes on the network (Alriksson, paragraph 0109).

37. For **claim 53,** Lehtovirta further teaches the device includes a wireless transmitter; and where means for receiving includes a radio receiver circuit (see Fig. 1 Box 30).

38. **Claim 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta in view of Medard, and Alriksson, as applied to **claim 1**, and further in view of Hippelainen et al. (US 2004/0081086).

39. For **claim 13**, the combination of Lehtovirta Medard and Alriksson discloses the use of Mobile IP (see Alriksson paragraph 0109). The combination of Lehtovirta Medard and Alriksson does not disclose the use of a Mobile IP registration operation in response to the fault. Hippelainen teaches releasing a resource link and a Mobile IP registration operation in response to the fault (see paragraph 5). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Hippelainen in the system of Lehtovirta. The motivation for doing so is to make the system more reliable.

40. **Claim 30** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta in view of Medard and Alriksson as applied to **claim 25** above, and further in view of Khalil et al. (US Pat 6,578,085), hereinafter referred to as Khalil.

41. For **claim 30,** Lehtovirta further teaches where the stored information includes information identifying a network node, in the list of network nodes, which is used by the end node (see paragraph 44). The combination of Lehtovirta, Alriksson and Medard does not discloses the node being used by the end node as at least one of a Mobile IP home agent, a SIP proxy server, and a SIP location registrar.

42. However, Khalil teaches the node being at least one of a Mobile IP home agent, a SIP proxy server, and a SIP location registrar (see col. 5 lines 33-42). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Khalil in the system of Lehtovirta. The motivation for doing so is to generate the list as mobiles register so that is no delay when the list needs to be accessed.

43. **Claim 35** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta (US 2001/0034228) in view of Medard and Alriksson, as applied to **claim 25**, and further in view of and Shah (US 5,930,326).

44. For **claim 35,** Lehtovirta teaches sending signals to a plurality of end nodes (see paragraphs 44 and 45). Lehtovirta does not disclose periodically sending fault signals to a plurality of end nodes at preselected time intervals and monitoring for fault signals at preselected time intervals.

45. However, Shah teaches periodically sending fault signals to a plurality of end nodes at preselected time intervals (see col. 4 lines 44-46 and 53-59); and operating at least some of the plurality of end nodes to monitor for fault signals at the preselected time intervals but not between the preselected time intervals (see col. 4 lines 44-46). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Shah in the system of Lehtovirta in view of Khalil. The motivation for doing so is to allow the nodes only have to monitor for fault signals at the time intervals selected, which allows the nodes to reduce processing power previously spent on constantly monitoring for fault signals.

46. **Claim 41** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta in view of Alriksson and Medard as applied to **claim 40** above, and further in view of Shah (US 5,390,326).

47. For **claim 41,** Lehtovirta teaches sending signals to a plurality of end nodes using internet protocol (see paragraphs 0046-0048 and figure 12). Lehtovirta in view of Alriksson and Medard teaches all the subject matter of the claimed invention with the exception of periodically sending

fault signals to a plurality of end nodes at preselected time intervals and monitoring for fault signals at preselected time intervals.

48. However, Shah teaches periodically sending fault signals to a plurality of end nodes at preselected time intervals (see col. 4 lines 44-46 and 53-59); and operating at least some of the plurality of end nodes to monitor for fault signals at the preselected time intervals but not between the preselected time intervals (see col. 4 lines 44-46). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Shah in the system of Lehtovirta. The motivation for doing so is to allow the nodes only have to monitor for fault signals at the time intervals selected, which allows the nodes to reduce processing power previously spent on constantly monitoring for fault signals.

49. **Claim 45** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta et al. (US 2001/0034228) in view of Alriksson and Medard, as applied to **claim 44** above, and further in view of Hippelainen et al. (US 2004/0081086).

50. For **claim 45,** Lehtovirta does not disclose the use of a Mobile IP registration operation in response to the fault. However, Hippelainen teaches releasing a resource link and a Mobile IP registration operation in response to the fault (see paragraph 5). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Hippelainen in the system of Lehtovirta to make the system more reliable.

51. **Claims 50 and 51** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta in view of Medard.

52. For **claims 50 and 51**, Lehtovirta discloses receiving, via a first network node (RNC **26**; see figure 12), a fault signal (N_RESET; the N_RESET message is sent to the UE **30** via RNC

26; see paragraph 0046 and figure 12) indicating a network node fault (the N_RESET message is used to indicate a partial fault in PS CN **20**; see paragraph 0048 and figure 12); determining if the network node fault (partial fault) corresponds to a network node (a PS CN **20** node; see paragraph 0020 and figure 12) that is used in routing signals (RAB signals; see figure 12) to or from the end node (UE **30**; see figure 12. The N_RESET message contains a list of IP addresses in the PS CN **20** that have failed; see paragraph 0048 and figure 12) and initiating a fault response operation (release RABs) if it is determined that the network node fault corresponds to a network node (a PS CN **20** node; see paragraph 0020) that is used in routing of signals to or from the end node (UE **30**; a node that receives the N_RESET message, such as a UE or other core network nodes, releases all RABs associated with the IP address of the failed device; see paragraphs 0046-0048 and figure 12). Lehtovirta further teaches comparing network node information included in the received fault signal to information in the generated list identifying at least one network node used in routing signals to or from the end node (see paragraphs 44 and 45).

53. Lehtovirta discloses determining if the network node fault (partial fault) corresponds to a network node (a PS CN **20** node; see paragraph 0020 and figure 12) that is used in routing signals (RAB signals; see figure 12) to or from the end node (UE **30**; see figure 12. the N_RESET message contains a list of IP addresses in the PS CN **20** that have failed; see paragraph 0048 and figure 12). The nodes that receive the partial fault message include UE (see paragraph 0046). Lehtovirta also discloses each peer node in the network is aware allocated IP addresses for routing purposes (see paragraph 0047). Lehtovirta does not disclose the use of a list. Medard discloses determining, at the end node (source node **12a**; see figure 1) using said

generated list (routing table **16**), if the second network node (network node that failed; see col. 10 lines 19-25) is a network node that is used in routing signals to or from said end node (Medard suggests this feature because the network nodes **12a** performs a routing table **16** look-up when a fault message is received to obtain information concerning the nodes, links and preferred paths; see col. 10 lines 6-40); and initiating a fault response operation (the network node **12a** uses a secondary path to send information; see col. 10 lines 19-41) if it is determined that the second network node that is used in routing of signals to or from said end node (if there is a match in the routing table **16**; see col. 10 lines 6-40). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Medard's architecture in Lehtovirta's invention to provide a recovery mechanism at the source node (Medard, abstract).

54. The fault messages in Lehtovirta's invention are distributed among network nodes. Lehtovirta does not disclose the UEs (end nodes) receive a fault signal or perform a recovery operation. Medard discloses initiating said fault response operation as a function of fault response information stored in said end node prior to receiving (the routing table **16** stores re-routing information; see col. 10 lines 39-40), said stored fault response information relating to a plurality of possible operations (a plurality of possible secondary paths; see col. 10 lines 5-20); wherein said initiating said fault response operation is also performed as a function of the network node at which the fault occurred with said operation being elected from a plurality of possible operations based on both the type of fault (link or node failure; see col. 10 lines 19-21) and which one of a plurality of network nodes was the node at which the fault occurred (the secondary path is selected based on the link and the node that failed; see col. 10 lines 19-41 and figure 1). It would have been obvious to a person of ordinary skill in the art at the time of the

invention to use Medard's architecture in Lehtovirta's invention to provide a recovery mechanism at the source node (Medard, abstract).

55. Specifically for **claim 50**, Lehtovirta discloses a means for receiving (each UE **30** has antenna that receives information from the network), and a means for initiating (Lehtovirta suggests the means for initiating is a processor executing code because figure 13 shows the steps that are performed by nodes that receive the N_RESET message. The nodes that receive the N_RESET message include the UE; see paragraph 0046). Lehtovirta suggests the means for comparing is a processor executing code because figure 13 shows the steps that are performed by nodes that receive the N_RESET message.

56. Lehtovirta does not disclose the use of a means for determining. Medard discloses a means for determining (APS processor **14**; see figure 1). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Medard's architecture in Lehtovirta's invention to provide a recovery mechanism at the source node (Medard, abstract).

Response to Arguments

57. The arguments with respect to Lehtovirta not disclosing an end node that receives a fault signal are not persuasive. Lehtovirta discloses the fault signal (N_RESET) message can be sent to an end node (UE; see paragraph 0046 and figure 12).

58. The arguments with respect to Medard not disclosing using a generated list to determine whether or not the fault corresponds to a network node that is used in routing signals to and from the end node itself because the routing table is used to re-route communication signals are not persuasive. Medard suggests this feature because in response to a signal indicating that a node in the network has failed, information concerning the nodes, links and preferred paths among the

nodes is accessed from the routing table (see col. 10 lines 19-25). The phrase "preferred path" is a reference to both primary and secondary paths because the preferred paths are computed first, then stored hierarchically in routing table **16** in primary and secondary order (see col. 10 lines 5-15). Medard suggests that a determination is made that the failed node is part of the primary path (i.e. active path) because a secondary path is selected such that the failed node is no longer in the path between a source and a destination (see col. 10 lines 19-40 and figure 1).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY M. RUTKOWSKI whose telephone number is (571)270-1215. The examiner can normally be reached on Monday - Friday 7:30-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeffrey M Rutkowski/
Examiner, Art Unit 2473

/KWANG B. YAO/
Supervisory Patent Examiner, Art Unit 2473